

CLAIMS

- 5 1. A process for reducing the sulfur content of a hydrocarbon feedstock to a value of less than 200 ppm, comprising subjecting a catalyst comprising a Group VIB metal component, a Group VIII metal component, and an organic additive on a carrier to a sulfidation step, and contacting a feedstock with a 95% boiling point of 450°C or less and a sulfur content of 500 ppm or less with the sulfided catalyst under conditions of elevated temperature and pressure to form a product with a sulfur content of less than 200 ppm.
- 10 2. The process of claim 1 wherein the sulfur content of the product is less than 50 ppm.
- 15 3. The process of claim 1 wherein the organic additive is at least one compound selected from the group consisting of compounds comprising at least two hydroxyl groups and 2-10 carbon atoms, and the (poly)ethers of these compounds.
- 20 4. The process of claim 3 wherein the additive is at least one compound selected from the group consisting of ethylene glycol, diethylene glycol, triethylene glycol, tetraethylene glycol, propylene glycol, dipropylene glycol and polyethylene glycol with a molecular weight between 200 and 600.
- 25 5. The process of claim 3 wherein the additive is a saccharide or a polysaccharide.

6. The process of claim 1 wherein the additive comprises a compound comprising at least one covalently bonded nitrogen atom and at least one carbonyl moiety.

5 7. The process of claim 1 wherein the sulfidation step is carried out *in situ*, optionally using the feed which is to be subjected to ultra-deep HDS with the sulfided catalyst.

10 8. A two-step process for converting a starting feedstock having a sulfur content of above 0.1 wt.% into a product having a sulfur content of 200 ppm or less, wherein the process comprises sulfidation of a first and a second catalyst comprising a Group VIB metal component, a Group VIII metal component, and an organic additive on a carrier, contacting a feedstock with a 95% boiling point of 450°C or less and a sulfur content of 0.1 wt.% or more with the first sulfided catalyst under conditions of elevated temperature and pressure to form a product with a sulfur content of less than 500 ppm, and contacting the effluent from the first catalyst, optionally after fractionation or intermediate phase separation, with the second sulfided catalyst under conditions of elevated temperature and pressure to form a product with a sulfur content of less than 200 ppm.

20 9. The process of claim 8 wherein the first catalyst comprises molybdenum as Group VIB metal component and cobalt and/or nickel as Group VIII metal component, while the second catalyst comprises molybdenum as Group VIB metal component and nickel as Group VIII metal component.